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ABSTRACT

This paper examines improvement in teacher education in Chile, which had an excellent system of teacher education until the 1970s. Educational change targeting elementary and secondary schools did not affect teacher education institutions, and there was no power to initiate such change. The national government pushed improvements by offering to fund projects presented by teacher education programs on a competitive basis. A small coordinating team was established in 1997 to conduct the selection process. The team also monitored and assessed the projects and institutions. Institutions could opt for a general overhaul of their teacher education programs or select just one area for improvement. Most opted for widespread changes. The paper examines how improvements have been occurring, focusing on four categories: theoretical focus, content and teacher preparation processes, learning to teach through continued practical experiences, and teacher educator and student teacher quality and instructional resource allocation. The paper highlights three ways in which this program illustrates the change process: policy-driven change, common constraints in institutional change, and mediations in change. (Contains 10 references.) (SM)

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Policy and Practice in the Improvement of Initial Teacher Education in Chile

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Introduction

There are few successful stories about improvement of teacher education provisions in developing countries. We hear much about improvement attempts linked to raising the qualification level from secondary to tertiary or university status (Cr. Messina, 1997), raising entry levels of students or wholesale curriculum changes directed from the top (generally, the Ministry of Education). But there is not much evidence of how these changes affect the quality of teacher education processes in concrete settings and conditions[1]. Yet, increasingly countries with ongoing educational reforms are becoming aware that the initial education of a teacher is as important as continued in-service professional development (Cf. Navarro and Verdizar, 1999). This is the case in Latin America where many countries are examining their provisions and recommending or institutionalising change in their teacher education institutions.

In the past Chile had a tradition of first class teacher education institutions as compared to other countries in Latin America. The Escuela Normal de Preceptores founded in 1842 by the Argentine educator Domingo Faustino Sarmiento became a model in all of Latin America for primary teacher training. The Faculty of Education of the University of Chile established at the turn of the nineteenth century became the regional model for quality secondary teacher education. Such a tradition remained true till the second half of the

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twentieth century. Gradually, and especially during the military government (1973-1989), the status of teachers was lowered, their salaries substantially decreased, fewer applicants of quality considered teaching as a profession and existing teacher education institutions remained stagnant while other new ones were established with little quality control over them. By the mid-nineties there was a generalised dissatisfaction with what was happening in teacher education programmes and this was acknowledged not only by the public at large but also by the institutions.

Universities (public and private) conduct most teacher education programmes in Chile in an undergraduate course lasting between 4 and 5 years. Teachers are prepared differently for Pre-School, Basic (elementary) and Secondary levels as well as to teach in Special Education schools or classes. Applicants must have reached a level of proficiency in the University Entrance Examination (Prueba de Aptitud Académica) set differently by each institution. In general, however, this level has been lower than what is required for other professions. There is no state certification of teachers so that universities are responsible both for the academic degree and the qualification of new teachers[2]. All this explains why there is neither an institutionalised form of monitoring the quality of teacher education programme on the part of the National Government nor any established criteria for such purpose.

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[1] An exception appears to be the case of Namibia. See Dahlström (1999).

[2] Normal Schools preparing primary teachers where raised to tertiary level and associated with universities during the Education Reform of 1965, with the Ministry of Education retaining some degree of control over them. Secondary teachers were always prepared at universities but the State decided when a university could certify that a teacher was a *Profesor de Estado* (a State Teacher). Both these types of authority were removed during the Military Government (1973-1989) and the whole responsibility for training and qualifying teachers was left to autonomous public and private universities. In the case of non-autonomous private institutions the teacher education curriculum and any changes to it, need approval from the Higher Council of Education (a public institution set up to accredit private universities).

How to "push" change.

The Education Reform affecting the primary and secondary levels of the system[3] through a host of programmes to improve quality and equity was having effects that required changes in classroom teaching. Teacher education institutions had not participated much in these changes and in general had remained aloof and distant from what was happening in schools. Yet it was obvious that the principles inspiring the reform favouring teacher participation in school improvement, learner and learning-centred pedagogy, as well as the enactment of new curriculum frameworks and syllabi, required that new teachers be prepared for these challenges.

Faced with the dilemma of the need for change and the lack of power to initiate such change, the national government opted to push improvement by offering to fund projects presented by the teacher education programmes on a competitive basis. Proposals could be submitted by any institution, public or private, with teacher education programmes. After a yearlong process and two external evaluations the projects of seventeen universities were approved and funded. The total amount to be disbursed over a 4 year period was US$ 25 million; it was clearly the greatest amount for teacher education and covered institutions with 80 percent of the student teacher population, of different size and student composition and scattered throughout the country from the extreme north to the extreme south.

A small co-ordinating team was established in 1997 at the Ministry of Education' s Higher Education Division with the purpose of organising and conducting the selection process. The team proposed the terms of reference to be set later by a legal regulation. These included as a minimum condition that there be changes in the teacher education curriculum,

the teaching processes and in the quality of teacher educators. It also suggested what should be the desirable profile expected of teachers trained by the new programmes.

Once the selection process was completed, the team took on several functions: monitoring the development of the projects and assessing the institution's financial and activity annual reports, assisting the teacher education programmes with information and activities relevant to quality, and organising formative evaluations of the projects. In turn each institution established a Project Co-ordinating Committee that includes a Ministerial representative and an executive office headed by a Project Co-ordinator. Each Project Co-ordinator liases directly with the national co-ordination on all matters relating to the project.

The process of change

At the time of presenting their projects institutions could opt, within the limits set by the Terms of Reference, for a general overhaul of the teacher education programmes or select just one area for improvement. In fact, and in view of a diagnosis, in which most institutions concurred, all of them opted for widespread changes, though not necessarily radical innovations. The agreed upon diagnosis of the problems in the system was centred on the following areas:

- a fragmented, overloaded and to an extent, outdated curriculum

- absence of a coherent teacher education approach as evident in the cleavage between theory and practice and the little contact with schools before the last year of study,

[3] For a description of these changes see the Ministry of Education's publication: *Reform in Progress* (1998)

largely directive and teacher centred teaching processes, with little opportunity for student independent work and reflection

- inadequate quality and amount of learning resources, including libraries and computer equipment, as well inadequate physical space for teaching and learning, and for faculty offices

- unsatisfactory conditions and preparation of teacher educators (especially those in charge of professional training); their mean age was over 50 years, few had doctorates and few were carrying out research and publishing in scholarly journals

- inadequate prior preparation of students and lack of motivation for the teaching career; most of them had opted for teaching because of having been rejected by other more prestigious careers; also numbers had been decreasing since the latter part of the eighties

- teacher education programmes operating in isolation from schools and reform efforts.

All the projects acknowledged these problem areas and proposed measures to improve them. Below we examine how improvements have been taking place under four main headings: (a) theoretical focus, (b) content and teacher preparation processes; (c) learning to teach through continued practical experiences, and (d) teacher educator and student teacher quality as well as of instructional resources' allocation.

A shift in the theoretical approaches to teacher education

Even without full awareness of discussions in the literature on teacher training and best-practices accounts, the projects are reflecting what we might consider some of the dominant trends in the field.

A cognitivist view of learning. The grounding principles for their projects as expressed by the institutions move away from the behaviourist emphasis inherited from the curriculum reform of the sixties. There is now a stronger perception that students must construct their own meanings as they learn, that there is need to take account of what students bring to the teacher education process, that opportunities for metacognition should be provided in the modes of delivery, and that students should learn about a broad spectrum of teaching strategies and have opportunities to decide how and when to use them,.

Reflective teaching, action-research and learning-by-doing. These approaches, as written in the projects, include references to relevant literature (Schön, 1983; Zeichner and Liston, 1987) and to key policy documents such as the Delors Report (UNESCO, 1996) and the Educational Reform literature in Chile. As shall be shown later, in practice this has meant a recognition of the need to reorganise both the curriculum and modes of delivery in order to provide students with opportunity to be reflective about their experiences and to learn to teach through action-research projects.

Building autonomy and decision-making capabilities. The projects are experimenting with strategies that will prepare future teachers to respond to demands of the educational reform such as being able to participate in developing school improvement projects or adapting the curriculum framework to the particular circumstances of pupils and schools.

Learning to teach in collaborative situations. The concept of collaboration was practically absent in the practices of teacher education institutions. The existing curricular structures did not leave time or opportunity for teachers to work and learn together. Perhaps, as a result of input from presentations at the international seminar en 1997 (especially Haggarty, Hargreaves and Bird, see Avalos and Nordenflycht, 1999), there are now greater opportunities in the curricular structures adopted to learn through collaboration.

Reviewing the teacher education curriculum

This is undoubtedly the area of most importance and most difficult to tackle given the conditions of the institutions. But having written their project (with greater and lesser involvement of faculty and students as became evident later) on the basis of an agreed upon diagnosis, there were indications of what should be the road ahead. Examination of the projects as they were presented and are being implemented, shows a generalised agreement on the following aspects:

(a) Curriculum review conducted in the light of the following principles: horizontal and vertical integration among content areas bearing in mind their relationship to teaching, interdisciplinearity, depth rather than coverage and problem-focus more than discipline focus.

(b) Up dating of contents both in relation to the international state-of-the-art as well as in relation to the new curriculum frameworks for basic and secondary education developed by the Education Reform Programme.

(c) Focus on values education as a cross-sectional component of the curriculum, with emphasis on respect for people and human rights, ecological responsibility and democratic participation.

(d) Practical learning as part of the curricular structure along the four years of the teacher education programme.

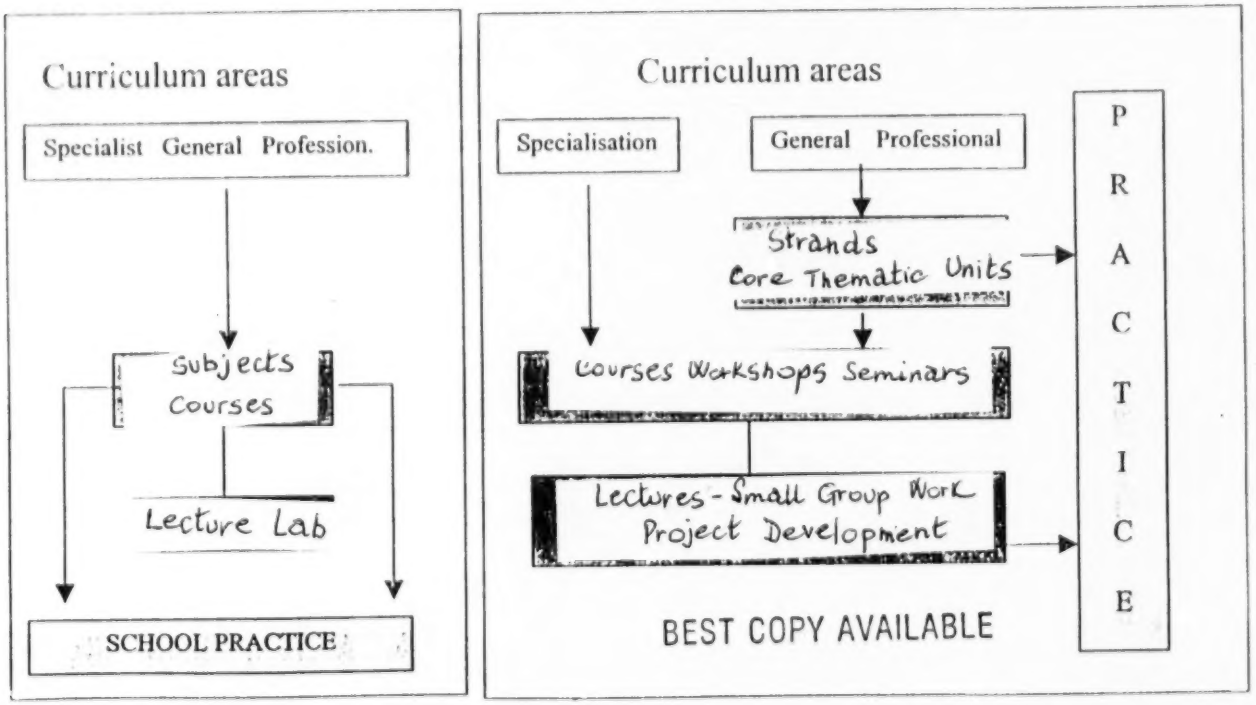
The application of these principles varies from institution to institution depending on their emphasis and possibilities, but in general all have tried to reduce the overload of the curriculum, to produce greater integration among curricular areas and with practice, or review the contents and remove overlaps, as well as introduce different forms of curriculum delivery. In a sense, these new curricula reflect a move from what could be considered a "traditional" structure to "new" structures.

The traditional structure usually is represented by a sequence of courses related to discipline areas. These courses are usually negotiated according to the conventional distinctions between general education, content specialisation and professional preparation; the negotiation usually also reflects the power of individuals or departments to impose their views. Practice is viewed as following the learning of theory, which makes the whole structure a linear one.

The new curricula break the traditional structure in different ways. The most important principle on which all institutions agree is that at least for professional preparation (but in some cases, also for content knowledge), theory must be relevant to teaching and recognisable in practical experiences , and that learning to teach must be gradual throughout the entire programme of studies. In order to do this, some institutions have

organised the curriculum in general areas or strands. For example, strands at one of the universities cover broad thematic areas such as "Planning and Programming Educational Activities", "Knowing and Learning", or "Information Technology and Multimedia". Within each strand there is a number of mini-courses or core units, which are planned on a yearly basis. Another university (with only elementary teacher preparation), has structured its curriculum into formats referred to as "university workshops". These cover broad thematic areas taught in an interdisciplinary format through lectures and seminars. Some of these themes include Learning and Teaching, Issues about Social Diversity and Schools, specialised content knowledge and methodology, and moral and democratic education as well as Information and Communications Technology. A third university is reorganising its curriculum on the basis of problems. In all the new curriculum structures, the practicum component has become an integral part of the entire four-year programme rather than just an addendum at the end. The figure below attempts to convey the nature of these changes.

Traditional model **New models**



The curriculum review has been informed by awareness that the focus of the teacher programmes and the mode of working with students needed change. The educational reform in place in elementary and secondary schools in Chile had brought in a constructivist view of teaching and learning and a co-operative style of carrying out school improvements, which was not reflected in the teacher education programmes; except to the extent that individuals worked on this basis as a product of their own convictions. Some teacher education programmes, however, had already introduced changes along these lines and were prepared to share their experience.

In the course of preparing a new curriculum and deciding on the communication structures to be used, the discussion inevitably centred on what and how teachers learn to teach. Constructivist principles were invoked in deciding to give more time to students for independent work or in having more seminar and workshop situations where students could discuss and question their own learning as well as the new information they were receiving. Constructivist principles were also invoked in attempting to reduce the quantity and diversity of content units and concentrate on key ones with generative potential.

From another perspective, the role of teachers and schools in furthering values such as democratic participation, respect for human rights and the diversity of students, were also influential not only in setting up an ad-hoc curricular content area, but also in the decisions taken about modes of organising the teaching and learning experiences. The fact that the world in which these teachers will teach is marked by information technology and that computers are now in most schools in Chile, made it imperative to include this area as a cross-sectional one to be used not only as a learning area but as a learning tool throughout the curriculum of teacher education.

Re-structuring and enhancing the practicum component

This component has been considered a most important one given its neglect in former programmes. The changes that are being implemented involve three elements: a sequenced structure, new tools and new relationships.

A sequenced structure

All programmes are introducing a practical (not just theory with practical applications) experience from the first or second year on. While the approaches differ the general nature of the sequence is as follows:

- Observation of school or social / educational situations, relating this to what is being learnt at the time and to reflective post-observation discussions.
- Supervised participation in educational tasks carried out in classrooms and schools.
- Some teaching linked to the implementation of a project, with close supervision and feedback.
- Full teaching responsibility for a period ranging from 12 to 15 weeks.

The precise nature of the kinds or practical activities to be carried out by students is still in the process of being worked out, and as we shall see later, there also are difficulties to be surmounted.

Below is a description of the structure of practical experiences as learned by the external evaluator of one of the projects:

> Teaching practice arrangements have been revised in the new programme. The new arrangements are as follows:

(a) Teaching practice takes place in six stages, between the fourth and the ninth semester.

(b) A nucleus of ten schools is used for the purpose

(c) During Phase 1, small groups of students from different academic disciplines are required to visit, on a rota system, a variety of schools for a period of two hours' observation each week. There, they learn *'in situ'* how the Chilean system of education is administered. In addition, they discover how the roles of the teacher, the family and the local community function in relation to the school. In order to ensure that their observations are properly focussed, students are required to complete an *Observation Schedule*.

(d) The assessment of Phase 1 of teaching practice is weighted thus: written report: 60%; self-evaluation: 20%; paired evaluation:20%. Students are given an outline to help them complete their written reports and checklists to assist in the completion of their self-evaluation and paired evaluation reports.

(e) As students' experience of teaching practice increases, they are required to spend longer periods in schools on collaborative investigations, so that by the time of their sixth and final practice in the ninth semester, they spend ten weeks in one establishment, teaching a programme which they had devised themselves, based upon their observations and experience of a particular issue in the teaching of their discipline -English in this case. They are required to present a final report on this project to their peers at the university.

New tools

The usual form of preparing for the final teaching experience in the past was through observation of teaching, preparation of teaching materials and occasionally the design of a teaching innovation to be carried out in a classroom or school. Now there are new tools being introduced or under consideration such as the use of classroom narratives for discussion or simulation of classroom or school events with peer feedback. With different degrees of awareness and know-how portfolios are being introduced at some institutions as a key tool for learning and assessment.

New relationships

A greater degree of practical experiences for students means the building of more and better educational relationships with schools and mentor teachers. Until now, sending a student to a school was a haphazard operation. Students were sent to any school willing to receive them, and got little supervision from the classroom teacher and even less from the university supervisor. This is changing. Universities are looking for appropriate schools, entering into formal agreements with local educational authorities and with schools that include professional development assistance to teachers in these schools. They are also attempting to establish more formal contacts and relationships with mentor teachers, within the limitations of having few incentives to offer for this work. The experience of the North American Professional Development Schools is being considered by some institutions.

Attending to conditions for effective improvement

The quality of the above changes is very much dependent on a set of factors that were acknowledged in the project proposals as well in the structure of fund allocation and expenditures. The main factors are the following three; (a) quality of entry of student teachers; (b) quality of teacher educators; and (c) teaching and other material resources. In relation to teaching resources, all institutions have been improving their libraries, their computer equipment and their physical facilities, and these changes are obvious to the visitor who knew the institutions before 1997. The policies and actions related to the first two factors are discussed below.

Better qualified applicants and future teachers

Improvement in entry qualifications of students has been attempted through two measures. The first one is a fund that awards tuition scholarships to more than average achieving

students[4]. Students interested in teacher education programmes applying to any university or teacher education institutions in the country, who qualify because of high school grade average (B+ or more) and a higher than average score on the university entry examination, are awarded scholarships. Now in its third year of operation the fund has both stimulated applications from a growing number of students and contributed to raise the quality of entrants. Below is an indication of changes in the period:

Table 1: Beneficiaries of tuition scholarships for teacher education institutions selected on the basis of higher than average school grades and university entrance scores.

Year	No. of qualified applicants	No. of applicants actually registered in institutions
1998	179	122
1999	400	240
2000	401	265*

*Not registered as the process has not yet taken place for the 2000 academic year

A second measure which the institutions themselves have undertaken are attractive marketing activities involving visits to high schools to promote the teacher education programmes and invitation to the students to visit the institutions with these programmes. In some cases, institutions have organised in-house workshops on selected academic and teaching topics with the purpose, for example, of attracting future science teachers. These activities resulted in a 13 % increase in student numbers in 1999 and presumably the increase will be higher this year.

Although attracting qualified students is an important policy it is also important to know where all future teachers stand in terms of basic skills for teaching (linguistic and numerical) and to devise programmes to assist with their improvement during the time of

[4] This is a separate fund from the one made available to institutions. It is managed centrally by the team in charge of the project at ministerial level.

their studies. In this respect, a group of six universities is considering joint work with the Educational Testing Service in the US to adapt their PRAXIS I test as a diagnostic instrument to be used with first year student teachers. Students with problems in this area would be helped to improve their basic skills during their four-year teacher education programme.

Teacher educator improvement

To a great extent the success of the changes proposed in the projects and that have been described above, depends on the willingness and know-how of the academic staff charged with teacher education responsibilities. As in all situations where change is involved, there have been a number of conditions affecting the willingness and capability to be part of the change activities. Some of these are the degree of initial involvement of professors in designing the project, their age and experience, and institutional factors such as conflicts of interest and power. Willingness and capability have also depended upon opportunities to open vistas, to re-think positions and to hear about other experiences. Both from the side of the ministerial co-ordination team and the institutions, such opportunities have been provided through a number of activities. Prior to setting the terms of reference for the development of improvement projects, the Ministry of Education organised an international seminar and invited responsible authorities from the institutions to learn about developments in teacher education elsewhere (including successes and failures). [5] As projects began to be implemented other more targeted meetings took place where Chilean educators were able to discuss with overseas participants new ideas and experiences and test out what they were doing or proposing to do: issues relating to the practicum, the

setting of standards for teacher education, problem-based teacher education among others. Likewise, Chilean teacher educators have been invited to other Latin American countries such as Peru, Bolivia, and Brazil to present their experience of change. Informal communication and support among professors from the different institutions is also occurring on a regular basis.

More structured forms of opening vistas have taken the form of study visits for academics to learn about experiences in other centres. The table below illustrates some of the locations where these visits have taken place.

Table 2: Types of programmes and placement for study visits of university academic staff in 15 Chilean universities (1998)

Type of Programme	Placement Institutions
Experiences in special Subject Teaching	U. de La Habana (Cuba) Complutense, Alicante, Barcelona, Oviedo, Madrid universities (Spain) Modern Museum of Natural History (France)
Learning about the organisation of practicum experiences	U. of Northern Iowa (USA)
Multicultural teacher education approaches	U. of Quebec (Canada)
Pre-school and primary level teacher education	Golda Meier Centre (Israel) U. of Costa Rica
Teacher education approaches	"Felix Varela"Pedagogical University (Cuba) Tel Aviv, Jerusalem and Haifa universities (Israel) U. of Northern Iowa (USA) Complutense, Autónoma de Madrid (Spain) U. of Colorado (USA)
Teacher education curriculum	Seville and Alcalá universities (Spain)
Values' curriculum in teacher education	Barcelona (Spain) Leuven University (Belgium)

Finally, the funding allocated to the universities includes provision for younger academics to engage in post-graduate studies (at master's and doctorate level) in country and abroad.

[5] Presenters from Australia, Argentina, Brazil, Canada, England, and the USA discussed problems and experiences. Resulting from this meeting is a publication in Spanish of and the Chilean institutions.

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Again, in every institution there is at least one or two staff member engaged in these studies.

Mid-term formative evaluations

With the purpose of gaining more systematic information on progress and difficulties in the implementation of the projects, the Ministry of Education organised in 1999 a formative evaluation using external evaluators[6]. The evaluation was to focus on three main areas: (a) the curriculum and training processes; (b) the preparation of science and English secondary teachers and the adequacy of their training to the needs of the Educational Reform, and (c) the management of the projects. Three groups of evaluators were recruited for each one of these areas, and six universities were selected for the evaluation. Given that this was considered a trial of what future evaluations might be like, a range of institutions was selected but not any of the ones with bigger student populations.. While the curriculum and training processes (including the practicum experiences) were examined in all institutions, the management structure was examined in only three and the secondary teacher preparation in only those with English or science teacher education programmes. In every case data was collected through a variety of means: interviews with co-ordinators and other authorities, focus group meetings with academic staff, students and mentor teachers in schools, review of documentation, observation of teaching in university classrooms and schools and of physical facilities including libraries and laboratories. The data collection involved per institution five days for the curriculum area, four for the

[6] These evaluators were selected among persons involved in teacher education programmes and who had evaluated programmes, who shared a common view regarding teacher education close to the principles ingrained in the Chilean projects and who could speak Spanish correctly. They came from the United States, Great Britain, Spain, South Africa and Brazil. A Chilean specialist handled the evaluation of the management operations.

secondary science and English programmes and three but with later gathering of pending information for the management issues.

The characteristics of the institutions evaluated are presented in the table below;

Table 3: Characteristics of six universities where mid-term formative evaluations were conducted.

Universities	Type of institution	N° of students in T. Education	Location	SES students	Focus of Evaluation			
					Curricula & Teach.	Science	English	Manage ment
Bío-Bío	Public	734	Regional	Lower Middle	X		X	
C. Valparaíso	Private*	1,591	Regional	Middle	X	X	X	X
C, Temuco	Private*	552	Regional	Lower M	X	X		
Central	Private **	152	Metropolitan	Middle & Upper	X			
Los Lagos	Public	1,010	Regional	Lower M	X		X	X
Raúl Silva H.	Private ***	2,610	Metropolitan	Low & Lower M.	X		X	X

* receiving public funding
** not receiving public funding
*** not yet autonomous

Main findings of the evaluations

While findings are pertinent to each institution and the nature of its project, some are common to all and will be sketched here. They point both to achievements and to problems in need of attention. Most findings pertain to five of the institutions as the sixth needs to be considered as a separate case.

1. <u>The curriculum changes</u>.

Curriculum review had been carried out by all institutions, with one of them still waiting for approval by the Higher Council of Education (being a private university without yet autonomous status). Initially, the degree of participation of academics in this review was partial; some felt they had not participated and a few were not happy with the changes.

But, ending the second year of the project and in three of them the first year of implementation, participation had grown.

The curriculum structure had changed quite radically in the case of one institution (Los Lagos) and less so in the others, but all had revised contents and decreased the number of courses and student contact hours. Nevertheless, as judged by the evaluators these contact hours could be further reduced (at least in the professional preparation area) without hurting learning objectives. Negotiation of contact time had shown a number of tensions among professors: tensions between those in charge of discipline or hard content areas and those in charge of professional education, and tensions between those wanting a single discipline approach and those favouring more integrated curriculum formats. The more detailed presentation of course contents was uneven in the institutions. Most lacked precise information about assessment procedures and more so, were in need of making explicit the standards that students were expected to achieve. Few offered enough options for students to elect learning activities according to their needs or interests.

2. Teaching approaches

Even without explicit reference, it was obvious that there was the intention to work within a constructivist framework avoiding excessive use of lecture method teaching. Not all the teaching observed was successful in this respect, but students in most institutions felt that there was an important change in teaching methodology from what they had known before;

> "Students were overwhelmingly positive in their comments about the pedagogy employed by the "new " program. They like working in groups for the most part, felt professor paid attention to how well groups were working, and felt professors attempted to get groups that were having problems back on track. In general, students indicated they feel closer with professors as a result of this new pedagogy

> being employed. They appreciated evaluations that attempted to take more than just test scores into account. A number of students commented positively on how what is presented in the classroom is done in a way that this learning can be applied to the job of teaching. They felt they as students could take more control of their own learning".
>
> (From one of the evaluation reports).

Evaluators coincided, however, that most of the active teaching was group work and that it had the danger of being overused. Suggestions were made for the introduction of other strategies within the framework of constructivist teaching.

3. Practice experiences.

As projects were in their second year of implementation it was not possible to see the quality of student's work in schools. But as practical experiences were being introduced in all institutions from the first year on, it was possible to assess their effect on students. In the judgement of evaluators this is the most noticeable area of improvement. Students were having contact with school situations and structured opportunities to learn from the experience. During the focus group interviews they spoke highly of the experience saying it was enhancing their interest in teaching. In two institution, students were required to spend time living in and/or observing a rural school, where "they assisted teachers, prepared exhibits, taught songs."

4. Resources.

All institutions had improved their physical facilities or were in the course of doing so. Library allocations were better at some institutions than at others, and particularly in the field of English were judged insufficient in two of the four institutions visited. Especially, noticeable was the improvement in computer equipment and multimedia resources. But

only in one of the universities was this equipment used not only for learning how to operate the equipment but also for integrating it into the classroom teaching. The evaluator commented on this university's achievement as follows:

> One of the most strikingly successful aspects of the program is the integration of computing skills and what the program calls "informatics" into all the *carreras* via the *Lineas del Area Instrumental.* This is achieved structurally via the course "Informática Educativa y Creación de Multimedios". But the integration goes beyond the inclusion of a one course requirement. Students seem to be using the computing and informatics labs for a wide variety of purposes. Professors appear to be giving assignments that require use of the computer labs, and the types of skills students master seem quite sophisticated. As a result, the students in this program have technology skill levels equal to and in many cases superior to students in many American teacher preparation programs.

The improvement in physical facilities had a very positive effect on staff, especially when it meant more office space for them. However, this was not the experience of staff in some areas such as the English Departments of two universities.

5. Management.

Two of the three projects that were examined for their management system were considered competent. But in one of these, the co-ordinator and his team had to struggle fiercely to make things work due to the archaic management system of the university itself.

6. A difficult case

One of the institutions evaluated presented a host of problems almost in every aspect of the project. This was judged so by the four evaluators examining independently the project from the four different angles stated earlier on. The university is a big one in the capital city of the second most populated region of the country. Therefore, what it does or does not do is important. From a purely formal viewpoint, this was a project with a lot of unspent

money, indicating that the co-ordinating structure for the project was ineffective. But at a deeper level there appeared to be a more worrying situation. The top managers of the university had written the project with very little consultation among those involved in the teacher education programmes. In part, this procedure was dictated by the organisational structure of the university, which disperses responsibility for teacher education in three faculties and one school. It was easier to get a small group to write a project than to bring together a highly heterogeneous and scattered group of teacher educators. A new curriculum was written hurriedly (just prior to beginning the project) that changed the structure of teacher education from a post-graduate course to a 4-year undergraduate one. There were obvious problems with it as judged by the evaluators. The only component of this university's project that appeared to be working effectively was the introduction of practical experiences in the first year. Its implementation was well co-ordinated by a small group of professors though lacking in authority to liase with other component areas of the project.

The most important effect of the negative assessment of the project by all the evaluators is that some action taken is being taken by the university to review needs, improve management and establish a more participatory implementation process.

6. <u>After effects of the evaluation</u>.

As the evaluators finished their work at every institution they discussed their main findings with the co-ordinating team and or/ a bigger group of professors.. Also, once their full reports were finished, these were sent to Rectors and Project Co-ordinators of the institutions for their knowledge and discussion. Such discussions are taking place as

judged by our participation in a three-day workshop at one of the institutions. Three other institutions have announced they will conduct workshops at the beginning of this academic year to examine findings.

Final considerations

The improvement programme for teacher education described can be viewed not only in what it substantially has or has not achieved. In many respects, it may be viewed also as an illustration of issues and possibilities related to large-scale reform efforts. With three years of operation, if one considers the initial year of preparation and selection of the projects, the experiences to date offer examples of what the available knowledge about change tells us (Cf. Fullan, 1993 and 1998). It also illustrates conditions that could be considered when deciding on similar enterprises in other contexts, especially developing countries. Below, are discussed three ways in which this programme illustrates change processes.

1. A case of policy-driven change.

While there was a long tradition of teacher education in Chile, most of it carried out at university level, by the early nineties the quality of its programmes as in other countries in the Latin American region, was far from good. Fewer students and less qualified ones were electing teaching as a profession. The widespread reform effort affecting the education system was also hardly touching the teacher education institutions. With some exceptions there were no real change initiatives by the institutions and little indication that there might be any.

From the point of view of the government the issue was then how to drive institutions to embark much needed reviews of their teacher programmes. Using the experience of improvement projects operating at school level, it was decided that a similar action coupled with enough funding could induce institutions to engage in a serious process of change. The fact that in 1996 the Chilean economy was in good shape with sustained growth indicators over the decade made it possible to allocate a substantial fund to be disbursed over five years for the improvement of teacher education programmes. This was a key decision as was the establishment of a structure that could ensure such funding would be used gainfully for improvement.

While, the push for change was a high level decision, the development of the change projects were the responsibility of the institutions to be changed, thus enabling them potentially to become owners of their own change process. However, this was not just an initial kick and then let go. In fact, at every stage -preparation of projects, evaluation and implementation- the ministerial staff has maintained a constant flow of information and by various means has stimulated awareness about the direction and quality the changes might take. Furthermore, the development of the projects was not just the initiative of government and the response of each institution on its own. While the presentation of projects was done on a competitive basis - there was also provision for institutions to collaborate and prepare a joint project. Although that in fact did not happen, once the projects were decided and implementation had begun, then the seventeen universities have worked closely together exchanging information, discussing options, sharing expertise etc. Thus, this case illustrates the application of apparently contradictory principles of top-down

and bottom-up reform as well as of competitiveness and collaboration in the actual process of change.

2. An illustration of usual constraints in institutional change.

Over the two years of their operation the projects have encountered a number of difficulties and limitations that are apparent to the observer or the recipient of progress reports. Further evidence on this was gathered during the mid-term evaluations.

These difficulties are of various kinds. Some of them stem from the degree of willingness of the main actors (the professors) to participate, the nature of the institutions with their histories and organisation style, and in some cases, the existence of outright power conflicts. In all of the institutions, there are persons who are actively engaged in the project because they head committees or are in charge of a particular component area. Others participate from a distance; they have been part of discussions, have undertaken actions required by them, and are reviewing their teaching programmes. They may be more or less committed to the project. Finally, there are those who clearly are against the concept of change itself, either because they do not agree with what is happening or because they are waiting for their time to go. To address low levels of commitment of some professors, the mid-term evaluators have suggested that the institutions organise structured encounters. These meetings should allow everybody to have a say about what they think, but also they should assist people to understand in a better way what is being attempted and how they might contribute more substantially to the project. Several institutions are in the process of holding such workshops and seminars for their professors.

Another area of difficulties has to do with institutional histories and characteristics. Small institutions may have more conflicts among people but less institutional constraints. Bigger institutions, on the other hand, are more prone to conflicts between the existing administrative structure and the new project structure. This may occur between the dean or head of department and the co-ordinator of the project and his or her co-ordinating committee. Institutional conflicts may also derive from systems of administration and the extent to which there are bureaucratic constrains. For example, it is easier for a private university to manage the project efficiently because its system of controls is more agile than in the case of a public university. Public institutions are subject to regulations overseen by the Controller Office of the Republic (*Contraloría General de la República*. In these institutions spending becomes a complicated operation and delays the prompt execution of certain activities. But, even in these public universities, there is scope for establishing more agile types of management, and such is the case in several of the eight public universities participating in the project.

The mid-term evaluations provided information also on other areas of difficulty which are of a more qualitative nature:

a. The difficulty of many of those involved to move from the sphere of discussion of high principles and orientations to practical action. For example, while constructivism and reflective teaching is a principle accepted by all institutions, it is not always clear how to translate these principles in the teacher education programme itself. Students are becoming bored with the excess of group work that is replacing the formal lecture. There clearly is a need to explore other pertinent teaching activities. In other words,

while there is commitment to change there still is not enough practical know-how, not enough tools to make change operational.

b. The projects cover many areas from organisational aspects to curricular reform. But it seemed to the evaluators that all these areas were being pursued concurrently without there being a strategically focal point. For example, if it is considered important to build a more integrated curriculum using innovative delivery modes such as workshop structures and tutorials, then all resources for this purpose should go to it, rather than settle for the policy that "every activity gets a bit".

c. Not all institutions have developed an adequate management system for the various components of their projects. For example, a complex new curriculum, involving a host of practical activities, requires systems to make these operational. This is a point that Fullan makes referring to successful Japanese companies. These companies were not successful because of their approach to production or their human resources but because of "their skills and expertise at 'organisational knowledge creation'." Such organisational knowledge is defined as the "capability of a company .. to create new knowledge, disseminate it throughout the organisation and embody it in products, services and systems" (Nonaka and Takeuchi, cited by Fullan, 1998, p. 15).

2. Change without a detailed road map drawn from the start.

Fullan (1993, 1998) refers to change as a journey not as a blue-print, and in many respects what is happening in the Chilean seventeen universities illustrates this concept As they move along the road, the proposals written in the original project are being modified and new change elements are appearing. For example, partly due to the fact that accreditation

of undergraduate programmes is now a government policy, the institutions have acknowledged that they need to participate in a process of standards setting (something unheard of before) This acknowledgement has meant that the universities are also taking seriously their responsibility for the quality and certification of new teachers. Given these elements, it has not been difficult to conduct, from the government, a discussion on standards involving the teachers' union and the universities. This discussion has already produced a draft and is to be further pursued at each institution.

Many other issues are still open and under discussion such as what constitutes an appropriate way of improving the quality of teacher educators. While short study visits have been made available to an important number of professors, there are questions about the effectiveness of these visits to be more than an opening of vistas. Therefore, new strategic decisions are being considered that focus more on what is needed in terms of the project and of staff specialisation than on offering everybody a chance.

3. Mediations in change (Fullan, 1998).

This is a case where mediations have been at play to conduct, refine and reinterpret the process. One mediation is that of the national co-ordinating office, which has been crucial as initiator of ideas and conveyor of information, as well as in providing assistance to both the financial and substantive implementation aspects of the projects. The project co-ordinators in each institution, their teams and the staff not only were initiators of their own projects and are their implementers, but operate with the belief that they are in a constant learning process. Such learning is resulting from their experience, from interchange with other institutions and from their close contact with the national co-ordinating office. In this

sense, in every university there is what Fullan calls a "tacit knowledge conversion"where the middle managers (sometimes co-ordinators, sometimes professors or deans) are key elements in transforming the complexities and often disorganisation of the change actions into meaningful situations. All this should mean both the recognition of errors and the need for improvement, as well as the recognition of successes and of new avenues that could be explored.

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